

Remarks

The present remarks are in response to the Office Action dated May 11, 2011, in which the Office Action indicated that claims 26-27, 29-30 and 34-49 are rejected. In view of the Remarks submitted herewith, the Applicant respectfully requests that the pending claims be placed in a state of allowance. No new matter has been added.

Claim Rejections – 35 USC § 103 (Obviousness)

The Examiner has rejected claims 26-27, 29-30 and 34-49 under 35 U.S.C. §103(a) as being unpatentable over Billington (US 6,390,269) in view of Gerlier (US 5,076,441) and further in view of Weston (US 5,499,944).

The Applicant respectfully disagrees.

Claim 26 recites that the note acceptor-dispenser validator receives a dispense change instruction from a host processor (e.g., a vending machine controller or VMC) and, based upon that dispense change instruction, determines how the dispensing of notes by the note acceptor-dispenser and coins by a coin dispenser can be combined to dispense the appropriate amount of change as a combination of notes and coins. Similarly claim 27 recites that the note acceptor-dispenser validator system is electrically connected to the host processor to accept a dispense change instruction from the host processor and, based upon the dispense change instruction, to determine how the dispensing of notes by the note acceptor-dispenser and coins by the coin dispenser can be combined to dispense the appropriate amount of change as a combination of notes and coins. Claim 29 and 34 each recite that the note acceptor-dispenser validator system is configured to accept a dispense change instruction from a host processor and, based upon the dispense change instruction, determine how the dispensing of notes by the note acceptor-dispenser and coins by the coin dispenser can be combined to dispense the appropriate amount of change as a combination of notes and coins.

This claim feature allows the bill recycler to be installed within – and to operate as a bill recycler within – a “legacy” vending machine that is not configured to operate with a bill recycler. Such a vending machine may be configured and

programmed to operate with a bill validator, which receives bills as payment (only), but not with a bill recycler, which receives bills as payment and dispenses bills as change. In such a situation, all change must be dispensed from the coin mechanism, which might result in a large number of coins being dispensed to the customer as change and/or in quick depletion of the coin mechanism's coin inventory.

The feature of controlling the form (as distinct from the amount) in which change is issued to the customer using a controller within the bill recycler ("note acceptor-dispenser") is not found in the cited references, taken alone or in combination. The cited portion of Billington merely teaches dispensing change as any of coins, bills or electronic funds, without specifying where the determination of how much should be dispensed in bills and how much in coins is made:

A customer may initiate a transaction by depositing coins or bills of particular denominations in the slots 50 or 60, respectively. The customer may also insert an electronic purse device, or a debit or credit card in the card acceptor 70 to initiate a transaction. Once sufficient payment has been deposited in the automatic transaction system 1, the customer may select a product 10 to be dispensed using the keypad 90. The corresponding product delivery apparatus 20 will then dispense the selected product 10 to the product delivery area 30 where it may be retrieved by the customer. Any resulting change from the transaction may be paid out through a coin return 80, the bill pay out recess 85 or credited to an inserted electronic purse device.

This cited portion of Billington does not specify making any particular determination as to how much of the "resulting change from the transaction" should be paid out from "the bill pay out recess 85" and how much should be paid out through the "coin return 85," and in fact does not disclose either the manner (coins only, bills only, or both coins and bills) in which change is dispensed. Nor does the cited portion of Billington suggest where such a determination of the manner in which change is to be dispensed ought to be made – that is, in which specific portion of the system. As a result, Billington does not teach or suggest that a bill recycler determines what combination of notes and coins should be dispensed as change, as recited in the

claims. Notably, the controller 130 specifically cited in the Office Action at page 4 is the VMC (Billington at 2:44), and is equated (correctly) in the Office Action with the recited host processor.

The Office Action asserts that the above-quoted portion of Billington discloses the claim feature in question:

This passage also is considered to include disclosing that the note acceptor dispenser system is further configured to accept said dispense change instruction from said host processor (130), and based upon the dispense change instruction, determine how the dispensing of notes by said note acceptor dispenser and coins by said coin dispenser can be combined to dispense the appropriate amount of change as a combination of notes and coins based on the communication with host processor (130).

To the extent that the Office Action is relying upon a theory of inherency, such reliance is improper. To rely on inherency, a rationale or evidence tending to show inherency must be provided. MPEP § 2112(IV) at 2100-47 (8th ed. rev. 8 July 2010). The mere fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *Id.* (emphasis in original).

In the present case, the VMC 130 within Billington may issue separate change instructions to the bill escrow and pay out unit 115 and to the coin changer 110. Notably, the VMC 130 is coupled through the coin changer 110 to the bill escrow and pay out unit 115 (see Fig. 5). Such a configuration suggests that the coin changer 110, not the bill escrow and pay out unit 115, is more likely to receive a change instruction from the host processor 130 and determine what combination of bills and coins to dispense as change. In fact, Billington teaches at 6:60 to 7:28 that coin changer 110 accumulates credit for currency inserted into any bill validator or similar device connected to coin changer 110, and that microcontroller 400 within coin changer 110 determines what combination of currency is dispensed as change:

If an additional money receiving unit, such as a bill validator or card reader, is connected to the second port P2, the changer 110 accumulates credit from that unit in addition to the value of the coins

received by the changer 110. For example, if the additional unit is a bill validator arranged to receive and validate Euro banknotes, as in the example above, the validator may receive a five Euro bill and the changer 110 may receive a £1 coin, for a vend price of £4. The microcontroller 400 converts the one unit of value indicated on the second port P2 to 70 units of 5 pence, and adds the 20 units of 5 pence representing the £1 coin validated by the changer 110, to give 90 units. The vend price is 80 units, so the microcontroller 400 indicates on the first port P1 that a vend has been paid for, and determines how the 10 units of change should be dispensed.

Accordingly, the recited claim feature is not inherent to Billington as asserted in the Office Action.

Gerlier relates to accepting and dispensing bills in a device 1 described generally as being used for an automated teller machine (ATM), with a bare suggestion that the device 1 might be used to accept payment for a service and that device 1 include a coin delivery mechanism 18 delivering part of the calculated change (col. 5, lines 61-68). However, Gerlier does not disclose where or how change to be returned is calculated, and in particular does not teach that an amount of change to be dispensed is calculated by a processor outside the bill recycler (device 1), while a specific combination of bills and coins totaling that amount to be dispensed is determined by the bill recycler, as recited in the claims.

Weston relates to maintaining a particular amount of “float” coin inventory in the coin tubes of a coin mechanism when the route driver empties the (remaining) coins. The sole mention of bills (or “banknotes”) in Weston is located in the Field of the Invention, in which the invention is characterized as being applicable to handling banknotes as well as coins. Weston contains no mention of a note acceptor-dispenser receiving a change instruction from a host processor and determining how much of the change should be dispensed as bills and how much as coins.

Claim 26 further recites a note hopper/change dispenser for receiving and storing up to a selected number of notes of a pre-selected denomination which are accepted by the note validator, the note hopper/change dispenser storing at least one note of the pre-selected denomination accepted in the first transaction for

dispensing as change in a subsequent transaction. Such a feature is not found in the cited references, taken alone or in combination. The cited portion of Billington merely teaches storing “acceptable” bills in the bill escrow and pay out unit 115. The cited portion of Billington does not teach bills are routed to the bill escrow and pay out unit 115 rather than the bill stacker 105 based upon denomination of the validated bill.

Gerlier teaches an embodiment of a device 1 using two tills 9, 10 coupled together and employed identically to store a banknote stockpile, which “can deliver banknotes of predetermined denomination from the most convenient till, or can restack the banknotes between the two tills” (2:26-20). Banknotes accepted in Gerlier are all routed to one till 9 (5:47-51). Gerlier does not teach routing only bills of a predetermined denomination into one of till 9 or till 10, and all other denominations into the other till. Instead, when a banknote is to be dispensed, the denomination of the top banknote from either till 9 or 10 is checked, and that bill is dispensed if it has the correct denomination but stored in the other till if it does not have the correct denomination (6:1-55). Gerlier thus does not teach receiving and storing notes of a pre-selected denomination which are accepted by said note validator in a note hopper/change dispenser and storing at least one note of the pre-selected denomination accepted in the first transaction for dispensing as change in a subsequent transaction, as recited in claim 26.

Weston teaches using separate coin tubes for different coin denominations, with a separator directing acceptable coins to the appropriate tube based upon denomination. All coins of a given denomination are routed to the same coin tube; not separate tubes are provided for holding coins that may be dispensed as change and coins that are not to be dispensed as change. Weston thus does not teach a note hopper/change dispenser for receiving and storing up to a selected number of notes of a pre-selected denomination which are accepted by the note validator, the note hopper/change dispenser storing at least one note of the pre-selected denomination accepted in the first transaction for dispensing as change in a subsequent transaction.

Similar to claim 26, claim 27 recites that a note hopper/change dispenser temporarily holds pre-selected characteristic notes received by the note validator,

while a note box holds at least notes other than pre-selected characteristic notes. Similarly, claims 29 and 34 each recite that a note hopper (or, equivalently, a “note hopper/change dispenser”) receives and stores at least some pre-selected characteristic notes validated by the note validator or validator processor while a note box receives and holds at least notes other than pre-selected characteristic notes that are validated by the note validator or validator processor, and specifically recite that the transportation unit directs validated notes to one of the note box and the note hopper depending upon whether the validated notes are pre-selected characteristic note. Such a feature is not found in the cited references, taken alone or in combination. The cited portion of Billington merely teaches storing “acceptable” (i.e., validated) bills in the bill escrow and pay out unit 115, and does not teach either routing “acceptable” bills to the bill escrow and pay out unit 115 and “unacceptable” bills to the bill stacker 105 or routing some “acceptable” bills to the bill escrow and pay out unit 115 rather than to the bill stacker 105 based on pre-selected characteristics (e.g., denomination and/or condition) and routing at least bills not having such pre-selected characteristics to the bill stacker 105. Gerlier teaches storing all accepted banknotes in a single one of two tills 9, 10, and restacking banknotes between the two tills while seeking an appropriate denomination banknote during subsequent delivery.

Claim 27 also recites that up to a selected number of notes is stored in the note hopper. Once the maximum number is met, notes – even pre-selected characteristic notes – are directed to the note box. Such a feature is not found in the cited references.

Conclusion

In view of all of the foregoing, claims 26-27, 29-30 and 34-49 are patentably distinct and in condition for allowance, which action is respectfully requested.

Respectfully Submitted,

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